



[Document Name]                      Specification

[Title of the invention]      SPREAD ILLUMINATING APPARATUS HAVING LIGHT  
CONVERGING MEANS

[Scope of demand for patent]

[Claim 1]

A spread illuminating apparatus comprising:

at least one light source;

a light conductive plate which has the at least one light source disposed so as to face toward one end surface thereof, and which allows light emitted from the at least one light source and introduced thereinto to exit out from at least one of two major surfaces thereof respectively toward at least one object to be illuminated; and

a light converging means which has a refractive index profile in a direction orthogonal to the two major surfaces of the light conductive plate, and which is disposed between the at least one light source and the one end surface of the light conductive plate.

[Claim 2]

A spread illuminating apparatus according to Claim 1, wherein the refractive index profile of the light converging means is structured symmetric about a center plane of the light converging means such that a refractive index decreases with an increase in distance from the center plane.

[Claim 3]

A spread illuminating apparatus according to Claim 1 or 2, wherein the light converging means has a height substantially equal to a thickness of the light conductive plate toward the one end surface.

[Claim 4]

A spread illuminating apparatus according to any one of Claims 1 to 3, wherein the light converging means has its light entrance surface and its light exit surface oriented parallel to each other.

[Claim 5]

A spread illuminating apparatus according to any one of Claims 1 to 4, wherein the light converging means has the light entrance surface and the light exit surface bonded respectively to the at least one light source and the one end surface of the light